

WO 2004/020665

PCT/EP2003/009437

- 1 -

SEQUENCE LISTING

<110> Evotec NeuroSciences GmbH

<120> Diagnostic and therapeutic use of FOAP-13
polynucleotides and polypeptides for neurodegenerative
diseases

<130> 031985wo ME/BM

<140>

<141>

<150> 02019281.1

<151> 2002-08-28

<160> 18

<170> PatentIn Ver. 2.1

<210> 1

<211> 390

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: cDNA fragment
of the foap-13 gene

<400> 1

```

tggttcctgg ctctccctca agagtgcagc cttggctaga gaactcacag ctctgggaaa 60
aagaggagca gacagggttc cctgggcccc gtctcagccc agccactgat gctggatgac 120
cttggcctga ccctgggtctg gtctcagaat cacttttccc atctgtaaaa ttgagatgaa 180
ttttggtggt gaaagttctt cctggagcag atgtcctaga aggttttagg aatagtgaca 240
gagtcaggcc accccaaggg ccatgggagc cagctgacct gcttgaccga aggatttctg 300
acagactatc tttggggatg ttttcaagaa gggatataag ttatttactt tgggcattta 360
aaagaaaatt tctctcggga ataattttat                               390

```

<210> 2

<211> 491

<212> PRT

<213> Homo sapiens

<400> 2

```

Met Ala Gly Gln Gly Leu Pro Leu His Val Ala Thr Leu Leu Thr Gly
  1              5              10              15

```

```

Leu Leu Glu Cys Leu Gly Phe Ala Gly Val Leu Phe Gly Trp Pro Ser
      20              25              30

```

```

Leu Val Phe Val Phe Lys Asn Glu Asp Tyr Phe Lys Asp Leu Cys Gly
      35              40              45

```

```

Pro Asp Ala Gly Pro Ile Gly Asn Ala Thr Gly Gln Ala Asp Cys Lys
      50              55              60

```

```

Ala Gln Asp Glu Arg Phe Ser Leu Ile Phe Thr Leu Gly Ser Phe Met
      65              70              75              80

```

```

Asn Asn Phe Met Thr Phe Pro Thr Gly Tyr Ile Phe Asp Arg Phe Lys
      85              90              95

```

- 2 -

Thr Thr Val Ala Arg Leu Ile Ala Ile Phe Phe Tyr Thr Thr Ala Thr
 100 105 110
 Leu Ile Ile Ala Phe Thr Ser Ala Gly Ser Ala Val Leu Leu Phe Leu
 115 120 125
 Ala Met Pro Met Leu Thr Ile Gly Gly Ile Leu Phe Leu Ile Thr Asn
 130 135 140
 Leu Gln Ile Gly Asn Leu Phe Gly Gln His Arg Ser Thr Ile Ile Thr
 145 150 155 160
 Leu Tyr Asn Gly Ala Phe Asp Ser Ser Ser Ala Val Phe Leu Ile Ile
 165 170 175
 Lys Leu Leu Tyr Glu Lys Gly Ile Ser Leu Arg Ala Ser Phe Ile Phe
 180 185 190
 Ile Ser Val Cys Ser Thr Trp His Val Ala Arg Thr Phe Leu Leu Met
 195 200 205
 Pro Arg Gly His Ile Pro Tyr Pro Leu Pro Pro Asn Tyr Ser Tyr Gly
 210 215 220
 Leu Cys Pro Gly Asn Gly Thr Thr Lys Glu Glu Lys Glu Thr Ala Glu
 225 230 235 240
 His Glu Asn Arg Glu Leu Gln Ser Lys Glu Phe Leu Ser Ala Lys Glu
 245 250 255
 Glu Thr Pro Gly Ala Gly Gln Lys Gln Glu Leu Arg Ser Phe Trp Ser
 260 265 270
 Tyr Ala Phe Ser Arg Arg Phe Ala Trp His Leu Val Trp Leu Ser Val
 275 280 285
 Ile Gln Leu Trp His Tyr Leu Phe Ile Gly Thr Leu Asn Ser Leu Leu
 290 295 300
 Thr Asn Met Ala Gly Gly Asp Met Ala Arg Val Ser Thr Tyr Thr Asn
 305 310 315 320
 Ala Phe Ala Phe Thr Gln Phe Gly Val Leu Cys Ala Pro Trp Asn Gly
 325 330 335
 Leu Leu Met Asp Arg Leu Lys Gln Lys Tyr Gln Lys Glu Ala Arg Lys
 340 345 350
 Thr Gly Ser Ser Thr Leu Ala Val Ala Leu Cys Ser Thr Val Pro Ser
 355 360 365
 Leu Ala Leu Thr Ser Leu Leu Cys Leu Gly Phe Ala Leu Cys Ala Ser
 370 375 380
 Val Pro Ile Leu Pro Leu Gln Tyr Leu Thr Phe Ile Leu Gln Val Ile
 385 390 395 400
 Ser Arg Ser Phe Leu Tyr Gly Ser Asn Ala Ala Phe Leu Thr Leu Ala
 405 410 415
 Phe Pro Ser Glu His Phe Gly Lys Leu Phe Gly Leu Val Met Ala Leu

- 3 -

420	425	430
Ser Ala Val Val Ser Leu Leu Gln Phe Pro Ile Phe Thr Leu Ile Lys		
435	440	445
Gly Ser Leu Gln Asn Asp Pro Phe Tyr Val Asn Val Met Phe Met Leu		
450	455	460
Ala Ile Leu Leu Thr Phe Phe His Pro Phe Leu Val Tyr Arg Glu Cys		
465	470	475
480		
Arg Thr Trp Lys Glu Ser Pro Ser Ala Ile Ala		
485	490	

<210> 3

<211> 2630

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: cDNA of the human foap-13 gene

<400> 3

```

cggacgcgtg ggcggacgcg tgggacgcgt cgtgggctct gggagtgtga aactgggaga 60
gacggttaag ctggggacgcg tattcagaat tcgagcgcag gagctccgct tctccacctg 120
ctcccgggga gctattggga tccagagaat caccgcgtga tgggttttcc ccaggcctga 180
aacaaccaga gagctacggg aaaggaaggg cttggcttgc cagaggaatt ttccaagtgc 240
tcaaacgcca ggcttacggc gcctgtgatc cgtccaggag gacaaagtgg gatttgaaga 300
tcactccac ttctgctcat ggcgggcccag ggcctgcccc tgcacgtggc cacactgctg 360
actgggtgct tggaatgcct gggctttgct ggcgtcctct ttggctggcc ttcactagt 420
tttgtcttca agaatgaaga ttactttaag gatctgtgtg gaccagatgc tgggcccatt 480
ggcaatgcca cagggcaggc tgactgcaaa gcccaggatg agaggttctc actcatcttc 540
accctggggt ccttcatgaa caacttcatg acattcccca ctggctacat ctttgaccgg 600
ttcaagacca ccttggcacg cctcatagcc atatttttct acaccaccgc cacactcatc 660
atagccttca ccttgcagg ctcagccgtg ctgctcttcc tggccatgcc aatgctcacc 720
attgggggaa tcctgtttct catcaccaac ctgcagattg ggaacctatt tggccaacac 780
cgttcgacca tcatcactct gtacaatgga gcatttgact cttcctcggc agtcttcttc 840
attattaagc ttctttatga aaaaggcatc agcctcaggg cctccttcat cttcatctct 900
gtctgcagta cctggcatgt agcacgcact ttcctctga tgccccgggg gcacatccca 960
taccactgc ccccaacta cagctatggc ctgtgccttg ggaatggcac cacaaggaa 1020
gagaaggaaa cagctgagca tgaacacagg gagctacagt caaaggagtt cctttcagcg 1080
aagggaagaga cccagggggc agggcagaag caggaaactcc gctccttctg gagctacgct 1140
ttctctcggc gctttgcctg gcacctgggt tggctgtctg tgatacagtt gtggcactac 1200
ctcttcattg gactctcaa ctcttgcctg accaactagg ccggtgggga catggcacga 1260
gtcagcacct acacaaatgc ctttgccttc actcagttcg gagtgctgtg tgccccctgg 1320
aatggcctgc tcatggaccg gcttaaacag aagtaccaga aggaagcaag aaagacaggt 1380
tcctccactt tggcgttggc cctctgctcg acggtgcctt cgctggccct gacatccctg 1440
ctgtgcctgg gcttgccttc ctgtgcctca gtccccatcc tccctctcca gtacctcacc 1500
ttcatcctgc aagtgatcag ccgctccttc ctctatggga gcaacgcggc cttctcacc 1560
cttgctttcc cttcagagca ctttggcaag ctctttgggc tggatgatggc cttgtcgggt 1620
gtggtgtctc tgctccagtt ccccatcttc accctcatca aaggctccct tcagaatgac 1680
ccattttacg tgaatgtgat gttcatgctt gcatctcttc tgacattctt ccaccccttt 1740
ctggtatata ggggaatgcc tacttggaag gaaagtccct ctgcaattgc atagttcaga 1800
agccctcact ttccagcccc gaggatgggt ttgttcatct tccaccacct ttgaggacct 1860
cgtgtcccaa aagactttgc ctatcccagc aaaacacaca cacacacaca cacacacaca 1920
aaataaagac acacaaggac gtctgcgcag caagaaaaga atctcagttg ccaagcagat 1980
tgatatcaca cagactcaaa gcaaaggcat gtggaacttc ttattttcaa aacagaagt 2040
tctccttgca cttagccttg gcagaccctt gactccaggg gagatgacct gggggaggaa 2100
gtgtgtcaac tatttcttta ggctgtttg gctccgaagc ctatatgtgc ctggatcctc 2160
tgccacgggt taaattttca ggtgaagagt gaggttgtca tggcctcagc tatgcttctc 2220

```

- 4 -

```

ggctctccct caagagtga gccttggcta gagaactcac agctctggga aaaagaggag 2280
cagacagggt tccctgggcc cagtctcagc ccagccactg atgctggatg accttggcct 2340
gacctgggtc tggctcaga atcacttttc ccatctgtaa aattgagatg aattttggtg 2400
ttgaaagttc ttcttggagc agatgtccta gaaggtttta ggaatagtga cagagtcagg 2460
ccacccaag ggccatggga gccagctgac ctgcttgacc gaaggatttc tgacagacta 2520
tctttgggga tgttttcaag aagggatata agttatttac tttgggcatt taaaagaaaa 2580
tttctctcgg gaataatatt atagaaaaat aaagcttctg tgtctaaggc 2630

```

<210> 4

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: one-base
anchor oligonucleotide

<400> 4

httttttttt tta

13

<210> 5

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: one-base
anchor oligonucleotide

<400> 5

httttttttt ttg

13

<210> 6

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: one-base
anchor oligonucleotide

<400> 6

httttttttt ttc

13

<210> 7

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer for the
foap-13 gene

<400> 7

tcaggtgaag agtgaggttg tca

23

<210> 8

- 5 -

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer for the
foap-13 gene

<400> 8
ggctgcactc ttgagggaga 20

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer for the
cyclophilin B gene

<400> 9
actgaagcac tacgggcctg 20

<210> 10
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer for the
cyclophilin B gene

<400> 10
agccgttggt gtctttgcc 19

<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer for the
ribosomal protein S9

<400> 11
ggtcaaattt accctggcca 20

<210> 12
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer for the
ribosomal protein S9

<400> 12
tctcatcaag cgtcagcagt tc 22

<210> 13
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer for the
beta-actin gene

<400> 13
tggaacggtg aaggtgaca

19

<210> 14
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer for the
beta-actin gene

<400> 14
ggcaaggac ttcctgtaa

19

<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer for the
GAPDH gene

<400> 15
cgtcacgggt gtgaaccatg

20

<210> 16
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer for the
GAPDH gene

<400> 16
gctaagcagt tgggtgtgca g

21

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer for the
transferrin receptor (TRR)

- 7 -

<400> 17
gtcgctgggc agttcgtgat t

21

<210> 18
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer for the
transferrin receptor (TRR)

<400> 18
agcagttggc tggtgtacct ctc

23